



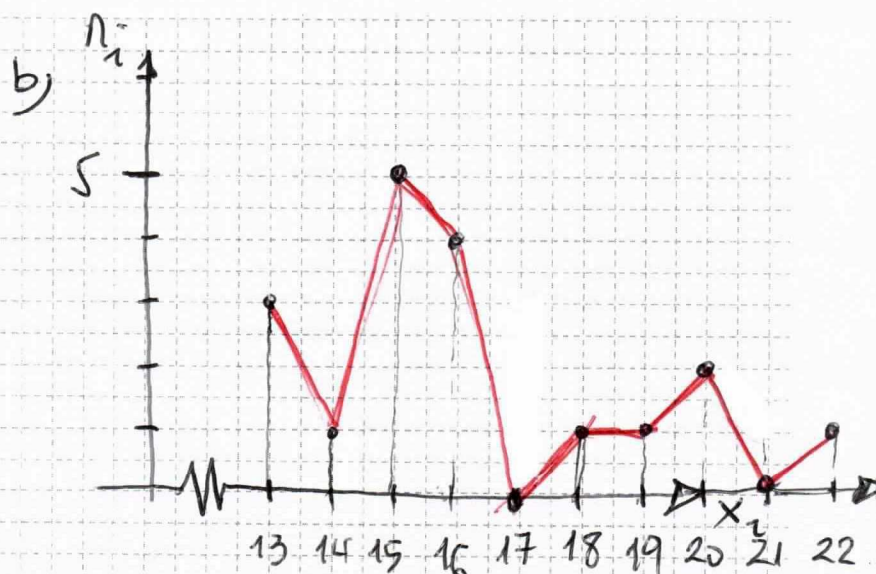
1. The marks obtained by a group of students in a test are:

15, 20, 15, 18, 22, 13, 13, 16, 15, 19, 18, 15, 16, 20, 16, 15, 18, 16, 14, 13.

- a) Do a frequency distribution table for the data: absolute, relative and percentage.
b) Draw the corresponding frequency polygon.

a)

x_i	n_i	f_i	%
13	3	0'15	15
14	1	0'05	5
15	5	0'25	25
16	4	0'20	20
18	3	0'15	15
19	1	0'05	5
20	2	0'10	10
22	1	0'05	5
20	1'00	100	



2. The weights of 50 people are represented by the following table:

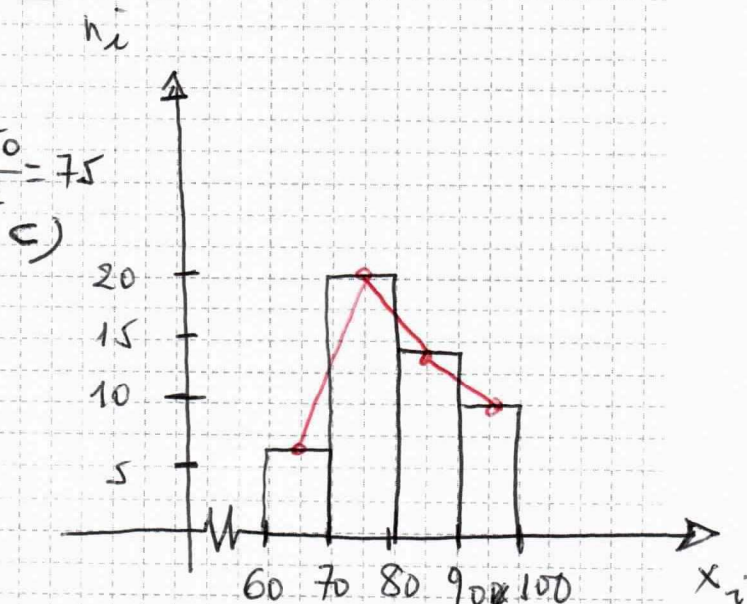
Weight	x_i	n_i	f_i	%	$x_i \cdot n_i$
[60, 70]	65	6	0'12	12	390
[70, 80]	75	20	0'40	40	1500
[80, 90]	85	14	0'28	28	1190
[90, 100]	95	10	0'20	20	950
		50	1'00	100	4030

- a) Complete the frequency table with relative and percentage frequency.
b) Work out the central tendency parameters.
c) Plot the histogram and frequency polygon.

b) $M_0 = [70, 80]$

$$Me = \frac{x_{25} + x_{26}}{2} = \frac{75 + 75}{2} = \frac{150}{2} = 75$$

$$\bar{x} = \frac{4030}{50} = 80'6$$



3. Find the mean, median and mode for the following set of numbers: 3, 5, 2, 6, 5, 9, 5, 2, 8, 6.

$$\bar{x} = \frac{3+5+2+6+5+9+5+2+8+6}{10} = \frac{51}{10} = 5.1$$

$$M_e = \frac{5+5}{2} = \frac{10}{2} = 5$$

2, 2, 3, 5, 5, 5, 6, 6, 8, 9

$$M_o = 5$$

4. There are the following values: 5, 3, 6, 5, 4, 5, 2, 8, 6, 5, 4, 8, 3, 4, 5, 4, 8, 2, 5, 4.
 a) Do a frequency table: absolute, relative and percentage.
 b) Calculate the mean, median and mode.

a)

	x_i	n_i	f_i	%	$x_i \cdot n_i$
	2	2	0.10	10	4
x_2	3	2	0.10	10	6
x_4	4	5	0.25	25	20
x_9	5	6	0.30	30	30
x_{15}	6	2	0.10	10	12
	7	0	0		0
	8	3	0.15	15	24
		20	1.00	100	96

b) $\bar{x} = \frac{96}{20} = 4.8$

$$M_e = \frac{x_{10} + x_{11}}{2} = \frac{5+5}{2} = 5$$

$$M_o = 5$$

5. The kind of films preferred by 80 young people are classified by the following table:

Genre	n_i	f_i	%	Degrees
Fiction	12	0'15	15%	54
Comedy	20	0'25	25%	90
Terror	8	0'10	10%	36
Adventure	40	0'50	50%	180
	80	1	100%	360°

a) Classify the studied character.

Categorical

b) Complete the gaps of the table.

c) Work out the mode

Adventure

d) Draw a sector diagram.

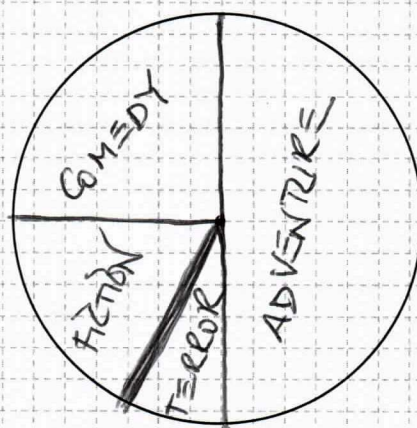
$$360 \div 100 = 3.6$$

$$15 \cdot 3.6 = 54^\circ \text{ Fiction}$$

$$25 \cdot 3.6 = 90^\circ \text{ Comedy}$$

$$10 \cdot 3.6 = 36^\circ \text{ Terror}$$

$$50 \cdot 3.6 = 180^\circ \text{ Adventure}$$



6. 40 students in a class have obtained the following test scores out of 50.

3, 15, 24, 28, 33, 35, 38, 42, 23, 38, 36, 34, 29, 25, 17, 7, 34, 36, 39, 44, 31, 26, 20, 11, 13, 22, 27, 47, 39, 37, 34, 32, 35, 28, 38, 41, 48, 15, 32, 13.

a) Classify the data by intervals from 0 to 50. Take as length 10 for each.

b) Do the absolute frequency table.

c) Work out the mode, mean and median.

a/b/

	I_i	x_i	n_i	$x_i \cdot n_i$
\times_2	0-10	5	2	10
\times_8	10-20	15	6	90
\times_{18}	20-30	25	10	250
\times_{35}	30-40	35	17	595
	40-50	45	5	225
			40	1170

c/ $M_0 = [30, 40]$

$$Me = \frac{x_{20} + x_{21}}{2} = \frac{35 + 35}{2} = 35$$

$$\bar{x} = \frac{1170}{40} = 29.25$$